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CABINET AFFAIRS STAFFING MEMORANDUM

Date: 01/09/84 **Number:** 168877CA **Due By:** _____

Subject: Cabinet Council on Economic Affairs - Tuesday, January 10, 1984

8:45 A.M. - Roosevelt Room TOPIC: Federal Capital Budget

	Action	FYI
ALL CABINET MEMBERS	☐	☐
Vice President	☑	☐
State	☑	☐
Treasury	☑	☐
Defense	☑	☐
Attorney General	☐	☑
Interior	☐	☑
Agriculture	☑	☐
Commerce	☑	☐
Labor	☑	☐
HHS	☐	☑
HUD	☑	☐
Transportation	☑	☐
Energy	☐	☑
Education	☐	☑
Counsellor	☑	☐
OMB	☑	☐
CIA	☐	☑
UN	☐	☑
USTR	☑	☐
GSA	☐	☐
EPA	☐	☐
OPM	☐	☐
VA	☐	☐
SBA	☐	☐

	Action	FYI
CEA	☑	☐
CEQ	☐	☐
OSTP	☐	☐
_____	☐	☐
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_____	☐	☐
Baker	☑	☐
Deaver	☐	☐
Darman *(For WH Staffing)*	☑	☐
Jenkins	☐	☑
Mc Farlane	☐	☑
Svahn	☑	☐
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CCCT/Gunn	☐	☐
CCEA/Porter	☑	☐
CCFA/	☐	☐
CCHR/Simmons	☐	☐
CCLP/Uhlmann	☐	☐
CCMA/Bledsoe	☐	☐
CCNRE/	☐	☐

REMARKS: The Cabinet Council on Economic Affairs will meet Tuesday, January 10, 1984 at 8:45 a.m. in the Roosevelt Room.

The agenda and background paper are attached.

DCI EXEC REG

RETURN TO:

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THE WHITE HOUSE

WASHINGTON

January 4, 1984

MEMORANDUM FOR THE CABINET COUNCIL ON ECONOMIC AFFAIRS

FROM: ROGER B. PORTER RBP

SUBJECT: Agenda and Paper for the January 10 Meeting

The agenda and paper for the January 10 meeting of the Cabinet Council on Economic Affairs are attached. The meeting is scheduled for 8:45 a.m. in the Roosevelt Room.

The Council will consider the report of the Working Group on Federal Budget. At a previous meeting the Council expressed particular interest in: (1) the possibility and usefulness of depreciating all non-defense capital investments that the Federal Government owns and operates; and (2) the issue of "fiscal centralism" and its effect on the demand for Federal capital investment. A paper addressing these issues is attached.

The Working Group's paper is divided into three parts. The first is a review of arguments advanced and issues involved in developing a capital budgeting alternative to the current cash accounting method. The Cabinet Council has concluded that extending the notion of "capital investment" beyond physical assets, such as buildings, owned and operated by the Federal Government would create a number of budgetary and policy problems, without substantially improving the quality of data or decisions regarding capital investments.

The second section of the paper, beginning on page thirteen, discusses the idea of establishing a Federal capital planning mechanism, a proposal which is often premised on the belief that Federal investment in our nation's infrastructure is inadequate. The Working Group points out the difficulty of determing public infrastructure "needs", and the importance of underlying policy choices in estimating those needs; and the many different policy goals and objectives by which the value of a capital investment is to be measured. A number of issues are identified, including: the elasticity of demand for infrastructure services, which depends in part upon who is paying for the investment; substitution between types of capital investment and non-capital investment alternatives; and, resource allocation efficiency. The Working Group presents evidence suggesting that increased Federal funding of State and local infrastructure investment has not increased infrastructure investment but permitted State and local governments to reduce their investment in the infrastructure.

The third section of the paper, beginning on page twenty-four, identifies the need for improved planning for capital investments owned and operated by the Federal government. A major barrier to more effective executive branch capital planning is the paucity of data upon which most analyses are based and the absence of a requirement that capital planning be part of the multi-year budgeting process. The Working Group concludes that decisions about changes in Federal accounting practices must be premised upon the answers to a number of questions, including: the purpose for which the data will be used, and the level at which decisions are to be made. The Group identifies three generic options for proceeding with this issue: (1) improving formal public presentation based on standardized data; (2) utilizing better depreciation data and techniques to ensure better Federal decision making; or (3) improving the quality, scope and utilizations of the present standard level user's charge (SLUC) to ensure better Federal decision making.

THE WHITE HOUSE

WASHINGTON

CABINET COUNCIL ON ECONOMIC AFFAIRS

January 10, 1984

8:45 a.m.

Roosevelt Room

AGENDA

1. Report of the Working Group on the Federal Budget (CM # 412)

January 6, 1984

ECONOMIC POLICY STUDY #12

PART ONE: CAPITAL BUDGETING & ENHANCED CAPITAL INVESTMENT ANALYSIS

OVERVIEW

Since 1969, when the Budget Concept Commission recommendations to establish a Unified Budget was first implemented, the Federal government has kept a comprehensive set of books on a cash basis. While cash accounting had been applicable to direct Federal operations since the beginning of the Republic, the growth of non-operating programs since the 1930's had, by the time the Commission's recommendations were adopted, come to overshadow the direct operating budgets of Federal departments. Hence, the primary intent of the Commission's recommendations was to permit, for the first time, comprehensive accounting of the current Federal cash resource drain on the economy.

Since that time, no one has argued that the importance of this crucial macroeconomic measure has been in any way diminished or overshadowed by other considerations. Yet concern has been expressed about pure current cash budgeting as the sole Federal accounting measure on the grounds that, in certain instances, it distorts the true economic effects of Federal spending decisions. In particular, current practice has been continually criticized on the grounds that it misrepresents the true economic costs (and benefits) associated with capital investments -- both investments made to support direct Federal operations, and also expenditures made by the Federal government to support investments made by other levels of government and individuals.

This part of the study examines the various arguments that are raised about Federal analysis of and accounting for expenditures in support of capital investments, and looks at the trade-offs between current accounting practices and suggested alternates.

First, we examine the arguments for and against "capital budgeting" as an alternative to present cash budget methods. We conclude that proposals to ignore the current resource costs of investment expenditures could induce serious control problems without generating commensurate offsetting benefits.

Next, we examine the desirability of establishing an expanded program of government-wide "capital needs analysis", both for direct Federal programs and for programs in support of capital investments by non-Federal entities. We conclude that, while improved information about the advantages and disadvantages of different investments strategies are desirable, most proposals in this area go far beyond the needs of Federal managers and purport to launch a form of national central investment planning. Beyond the heroic strides that would need to be made in Federal information collection and data assessment in order to implement such a system, we ultimately question the

inherent policy desirability of moving any significant way toward central planning of non-Federal physical investment.

Next, following the suggestions made at a CCEA review of an earlier draft of this paper, we study the implications of a narrower effort to improve the collection and analysis of information useful to Federal managers in making decisions about alternative investment strategies to support direct Federal operations. We summarize the advantages to be gained from such an approach, and highlight the major methodological problems that will have to be addressed if a system in support of such collection and analysis is to be implemented on a standardized government-wide basis. Finally, we conclude with the presentation of a series of options for further consideration by the Cabinet Council.

I. CAPITAL BUDGETING AS AN ALTERNATIVE TO CASH ACCOUNTING FOR PROGRAMS SUPPORTING CAPITAL INVESTMENTS

In recent years, considerable interest has been expressed in the notion of developing a Federal "capital budget." Noting the significant amount of current year obligations made to finance projects and activities with many years of useful life, proponents argue that the costs associated with such projects should be depreciated over the useful life of the investment, rather than treated as an annual expenditure during the year of acquisition. This treatment, it is argued, would more closely parallel the treatment of capital expenditures by the private sector and by State and local governments.

Alternatively, it is often argued that a "pure" capital budget is not needed, but that we need an enhanced method of reviewing and planning for public -- especially Federal -- capital investment needs. This analysis will discuss these two issues (a formal capital budget and an enhanced capital investment planning process) sequentially.

A. Formal Capital Budgeting: Creating Separate Capital Accounts in the Unified Budget.

If the Federal Government were to adopt a capital budget, a series of changes would need to occur:

- It would be necessary to divide Federal capital expenditures and operating costs into two separate budgets.
- A firm conceptual dividing line would have to be established as between those spending components that are deemed operating costs and those components that are capital expenditures.
- It would be necessary to compute depreciation charges for Federal capital facilities and equipment and to develop a method of charging the operating budget for depreciation.
- A major new difference would be introduced between Federal borrowing (and changes in Federal debt) and the budget deficit. Capital investments would be financed by borrowing or taxes at the time when the facilities and equipment were acquired and paid for,

regardless of when they were charged to the operating budget. Conversely, depreciation would be charged to the operating budget even though it would have no effect on cash payments or borrowing.

- Creation of this dual budget structure would require major changes in the Congressional appropriations and budget control processes.

The fundamental arguments for adopting a capital budget are derived from the logic of accounting conventions. However, accounting conventions must be related to the needs and nature of the organization served. It cannot automatically be presumed that accounting practices used in the private sector or by State and local governments should also be used by the Federal Government, because the nature, purposes, legal constraints, and authority of the Federal Government differ substantially from those of private business enterprises and from State and local governments.

1. The "Income Statement/Balance Sheet Model".

a. Applicability of the Private Business Model. In the private sector, depreciation treatment of capital expenditures makes sound accounting and economic sense. Since investments are made with the hope of future profit, it is correct to associate the costs of consuming capital with the revenues generated through capital consumption. If this treatment were not followed, a distorted picture of profits would emerge. Profits would be understated in years in which capital investments were made, and overstated in those years when no investments were made but during which revenues were generated through the use of previously purchased capital goods.

It is important to note that the Federal Government suffers no similar distortions from current accounting methods, because most Federal operations are not for profit. Hence, depreciation treatment of capital expenditures alone would add nothing to the perception of government's "bottom line."

A second and related problem with drawing on private sector treatment as a justification for a capital budget is that the Federal Government often makes investments in pursuit of unquantifiable future benefits for the public at large. Unlike the private sector, where a common denominator measure of performance is available in the form of revenues denominated in dollars and cents, it is probably impossible -- and, therefore, in many instances, highly misleading -- to quantify the benefits of Federal capital investments in a way that would closely match the normal notion of "depreciation." For example, the national defense has no "fair market value." Even if we knew more closely the dollar-denominated stream of costs associated with prior capital investments in weapons systems and other defense capital, it is not clear how this would help make more rational decisions about defense investments.

Nor can capital budgeting be defended as appropriate for the Federal Government simply on the grounds that it is "sound business practice." This is because any business that wants to stay in business also keeps track of its cash flow, using accounting conventions like those of the present unified Federal budget.

Problems in Valuing Federal Assets & Liabilities.

The key question, therefore, to be asked about any accounting system is whether it provides the information needed for decisions and control. Businesses use their existing accounting systems as a means of discerning information that will help them achieve their ultimate goal of maximizing income and wealth. Hence, their accounting systems are designed to hone in on fine distinctions about how capital investments affect both their balance sheets and income statements.

Indeed, Federal capital budgeting is frequently deemed to be an adjunct toward determining the value of the Government in the same sense that balance sheets are used to determine the value of corporations. However, for the Federal Government this approach is a chimera -- it is inherently flawed both as to the ability to measure assets and liabilities and as to the objective of maximizing wealth.

The Federal Government is a sovereign power which inherently derives the bulk of its income from taxes in order to finance public goods. Hence, its principal asset is the ability to tax, and its principal liabilities are its obligations to meet the needs of its citizens.

There is no conceptual justification or accounting standards that can be applied to accruing either these assets or these liabilities. For 1982, for example, the cash flow spending (to meet these liabilities) was as follows:

	1982 Budget	% of Budget
o Indivisible collective benefits of secure national defense.....	$221	29%
o Redistribution of national income from old to young, well to sick, more affluent to poor, productive to dependent.....	$301	48%
o Social policy interventions designed to over-ride market outcomes by subsidizing preferred classes or activities (e.g., student aid, Amtrak, farm price supports, below market SBA loans, cheap rural electric power).....	$139	18%
o Interest on past excesses of current spending over current taxes (i.e., debt service)....	$96	13%

It is difficult to understand the value of hypothetical accounting conventions designed to move the recording of some of these costs into different time periods and move costs of other time periods into this year. The following illustrations from the FY 1981 Treasury statement of "Liabilities and Other Financial Commitments" further illustrate this point:

		(in billions of dollars)		
	Program	Assets	Liabilities	Unfunded Liabilities
1)	Social security.....	$10,082	$12,312	$-2,224
2)	Military retirement....	0	475	-475
3)	Civilian retirement system.....	212	396	-185
4)	Black lung trust fund..	26	17	+9

As a practical matter, social security and other large scale transfer program liabilities must be "funded" with future taxing power, not invested reserves. The recorded assets for social security are composed of (a) future earmarked tax income under current law, and (b) holdings of public debt securities that are backed by general fund tax powers. If it were actually funded (with $12 trillion in financial assets) the U.S. Government would

own the overwhelming bulk of the national economy! In turn, the liabilities are composed of the estimated current law stream of benefits to be paid (plus related administrative expenses) over the next 75 years. The actual determination of benefit levels are, of course, subject to whatever legislated changes may be enacted in the future.

The value of Federal physical assets is also nearly impossible to determine -- since a preponderant share of such assets is in the public domain for which market values do not exist. The Federal Government owns 744 million acres of land in the United States. It owns more than 90% of the State of Alaska and nearly half of the western States. The predominant use of this land is:

	Million Acres	Percent
Forest and wildlife	446	60.1
Grazing	162	21.8
Parks and historic sites	69	9.2
Alaska oil and gas reserves	23	3.1
Military, except airfields	18	2.4
Flood control and navigation	8	1.1
Reclamation and irrigation	6	0.8
Industrial facilities, power development and distribution	4	0.5
Other	8	1.0
Total	744	100.0

Six hundred eighty-four million acres of this land is public domain land, for which there is no recorded cost; 60 million acres of it was purchased at a cost of $9.7 billion. In neither case is there a sound basis for making an estimate of the current uses and range of locationally specific values for any given use classification -- nor is there the slightest intention to sell off most of these lands to obtain cash.

Clearly, the whole exercise of seeking to value the Government's assets and liabilities is based upon the premise that the Government is like a business -- which it is not -- and that its assets and liabilities can in a meaningful sense be valued -- which they cannot. Indeed, even if we were able to perform this feat, it would not accomplish the desired objective. Ever since Adam Smith opined on the Wealth of Nations, no serious commentator has asserted that maximizing the income or wealth of government -- as opposed to the Nation -- is desirable or even healthy. (A minority view exists among some monarchs and other sovereign heads of State and the Swiss banking community.) It is the need to promote the health, welfare, safety, security, and prosperity of the people -- not the financial wealth of the Government -- that constitutes the fundamental objectives of modern constitutional democracies.

As part of this role, for example, the Federal Government deliberately chooses not to collect taxes otherwise due on condition that businesses invest the money in increasing the stockpile of private capital. Yet the cost of such inducements to investment does not appear in the Federal budget. Only direct Federal outlays for capital purposes would be captured in a Federal capital budget. Data on such outlays are shown in the table below.

FEDERAL OUTLAYS FOR MAJOR NEW PHYSICAL CAPITAL INVESTMENT
(in billions of dollars)

	1942	1952	1962	1972	1982
Direct Federal acquisitions:					
National defense	19.9	4.2	17.8	19.1	48.8
Nondefense	1.4	1.5	2.3	3.6	8.2
Grants to State and local governments for capital acquisition	0.2	0.6	3.2	8.4	20.2
Total	21.5	16.2	23.4	31.1	77.1
Percent of total outlays	61.2	24.0	21.9	13.5	10.6

As the table shows, the dominant form of Federal investment in physical assets is for national defense. In the case of defense spending:

- The economic burden occurs when the defense goods are built, not when they are used.
- There are no known standards for depreciating defense spending; the very time when the greatest losses occur (wartime) is the very time when depreciation estimates would be least valid -- and a bit difficult to collect. While it would be possible in theory to develop depreciation guidelines for defense, any such accounting system would clearly break down in time of war.
- There is no evidence that within the defense budget physical investment is being shortchanged in favor of operating costs. While total defense spending clearly fluctuates significantly over time, both defense investment and operating costs generally move in tandem.

Hence, it is clear that moving to a capital budget and depreciation accounting for defense spending would be counterproductive. It would make the budget significantly less reliable with no compensating benefits.

State and Local versus Federal Asset Control.

The second largest component of Federal capital investment is for grants to to State and local governments. It is frequently assumed by capital budgeting advocates that Federal grants for State and local capital investment would be included in a Federal capital budget, but there is no accounting logic for such an assumption. Business accounting has no exact counterpart to the Federal-State-local relationships involved in grants. If a business donates money to another entity, such donations are current expenses of the business. There does not exist a set of accounting standards that would justify the use of Federal depreciation accounting for physical assets that the Federal Government paid for but gave away.

The component that most nearly resembles private capital investment -- nondefense direct capital investment -- is the smallest of the three components. This amounted to 1.2% of total budget outlays in 1982 and clearly is not sufficiently large to warrant major changes in the budgetary presentation and control processes.

b. Technical Issues. Further evidence that capital budgeting for the Federal Government raises insurmountable conceptual and technical problems arises from a more detailed analysis of three technical impediments: (1) the problem of defining capital spending; (2) determining useful life; and (3) the problem of measuring return on investment.

Defining Federal Capital Spending.

In business enterprises the distinction between investment and current cost is imperfect, but there is abundant accounting theory -- based on applicability to profit calculation -- to fairly clearly sort out the boundarylines. Since the Federal Government has no central motive akin to profitability, there is no agreed upon method of identification of what constitutes capital investment. The table below -- using data from the 1983 budget -- shows seven alternative approaches to defining Federal capital formation. While some proponents would settle on one or another approach for their capital budget, there is no clear reason to believe any of them is superior to the others.

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ALTERNATIVE CAPITAL BUDGETS

Criteria	Illustrative Description	Amount	Unified Budget Division		Percent Capital
			Capital	Operating	
(1) Federal ownership of nondefense physical structures/equipment	Corps, TVA, FAA, Forest Service facilities, Veterans hospitals	$7.5	$7.5	$765.8	1.0%
(2) (1) plus commodity inventories and public domain acquisitions	CCC, stockpiles, Forest Service land, parkland	5.4	12.9	760.5	1.7%
(3) (2) plus non-Federal ownership, physical acquisitions (e.g., grants-in-aid)	Highways, mass transit, sewer	19.5	32.3	741.0	4.2%
(4) (3) plus defense investments	Procurement, construction, family housing	61.9	94.3	679.1	12.2%
(5) (4) plus research and development	Defense, NASA, NSF, NIH	41.3	135.6	637.8	17.5%
(6) (5) plus net financial investment	FFB, SBA, Export-Import Bank	15.2	150.8	622.5	19.5%
(7) (6) plus "human capital" expenditures	Higher education aid, vocational education, manpower training, agricultural extension	20.6	171.4	602.0	22.2%

Even beyond the broadscale issues outlined above, there are innumerable subsidiary issues that could drastically alter the measured capital budget. For example:

- o If capital investment includes public housing stock, should it also include section 8 payments which both finance low-income private housing stock and also distribute in-kind transfer payments?

- o If capital investment includes VA hospitals, should it also include the portion of Medicare reimbursements attributable to capital depreciation?

- o Should $400 million for day care centers be included as human capital investment in children or income maintenance expense for working mothers? If direct child care expenses are considered capital investment, should the child care expense disregard component of AFDC transfer payment be included?

- o Should programs premised on a prevention theory -- $1.6 billion for WIC, MCH and health prevention services -- but which in practice largely finance in-kind food and medical transfer payments -- be considered capital or operating?

Calculating Depreciation.

Depreciation allowances are key components of any capital budget, since depreciation is intended to measure the current consumption or use of resources which -- in turn -- are to be charged back to the budget as a current expense. The only category to which an approximation of reasonable depreciation could be applied is direct Federal investment in nondefense physical assets owned by the Government -- a category that is only about 1% of the total budget.

The only logical criteria for separation of government expenditures between capital and operating is whether spending produces immediate or long-term social returns (collective benefits). Such a determination is inherently ad hoc and driven by subjective, substantive policy values rather than objective accounting principles. To the extent that Federal investment decisions reflect economic logic, the method now used to make decisions about public investments is probably a reasonable guide. In many public projects, we determine a cost-benefit analysis based on discounted present values. This method is hardly perfect in either theory or application -- nor is it applied as widely as perhaps it should be. Yet, if used well, it provides a rational means for making decisions about public investments. It is hard to tell how adding in depreciation treatment of investment costs would add any new knowledge.

2. Justifying a Federal Capital Budget Based Upon State and Local Government Accounting Practices.

Most State and local governments operate using capital budgets, and it is frequently assumed that if this two-part budgetary system is appropriate for them, it would also be appropriate for the Federal Government. However, both the powers and responsiblities and the legal and constitutional constraints on the Federal Government differ significantly from those of State and local governments.

- o Most State constitutions prohibit borrowing except under restricted circumstances, generally related to capital purposes. Similarly, State constitutions and/or laws generally constrain local government borrowing. These constraints generally lead State and local governments to separate their operating and capital expenditures, while no such constraints apply to the Federal Government. Except for specific public enterprise capital formation (such as for the Tennessee Valley Authority), there is no relationship between Federal capital formation and Federal borrowing.

- o State and local government financing of capital projects through bond funds is commonly justified on the basis of equity. It is argued that it is only fair for the users to pay a proportionate share of the facilities for each year they live in a particular locality. Similar arguments are not applicable to the country as a whole, particularly for spending for defense facilities and equipment.

Clearly, the use of capital budgeting by State and local governments flows from constitutional provisions and legal constraints, and constitute a management mechanism to cope with limited borrowing capacity -- it facilitates rationing of capital expenditure demands and preservation of bond rating. The Federal Government has no similar constitutional constraints - its borrowing capacity is nearly unlimited (although not without adverse macro-economic results) -- and in the Federal case capital budgeting is generally perceived as a mechanism to justify increased Federal spending and borrowing rather than to ration resources.

One can argue, of course, that we should impose similar legal restraints on the Federal Government. However:

- -- Such an approach is not mandated by the Constitution, so it lacks enforcement mechanisms. Borrowing for capital purposes would be justified whenever convenient, but whenever this would limit the Government's borrowing, the restriction would be ignored.

- -- In terms of the effect of Government borrowing on the money markets, it makes no difference whatsoever whether the Government is borrowing for current or capital

purposes. A dollar of borrowing for either purpose has exactly the same effect as a dollar of borrowing for any other purpose.

Hence, in the absence of (a) constitutional mandates, (b) accounting conventions, or (c) potential benefits, there simply is no reason for the Federal Government to adopt the State/local government capital budget model.

3. The Depreciation Model.

The ultimate rationale for capital budgeting is the argument that it is the normal way everybody else accounts for their capital spending, and that the Federal budget is simply out of step. As illustrated above, it is clear that the nature and role of the Federal Government is unique. However, even the assertion/assumption that normal accounting would call for simply shifting to a Federal capital budget is invalid. Under the "normal" accounting model, the Federal Government should operate using accrual accounting. This excludes from current costs the expenses of developing assets that will bring returns in future years, and treats liabilities for future expenses (such as for pensions) as current costs. Regardless of its theoretical merits, it is not feasible for the Federal Government to operate on that basis. This is true partly because the principal financial assets and liabilities of the Government are not quantifiable in normal accounting terms. The principal financial asset of the Government is the ability to tax, while the principal financial liability is the obligation to secure the nation against foreign threats and to promote domestic tranquility. There are efforts, of course, to quantify future pension liabilities (military and civilian retirement and social security) and for certain analytical purposes these data are extremely useful. The difficulty is trying to use these data in a budget control and reporting system. It is impossible to fund these programs on a private sector insurance model without changing the very nature of the economy. If we tried to fund these obligations under normal business practices, Federal "social insurance" taxes would have to rise drastically to swell pension fund balances, the proceeds of these taxes would have to be invested, and the Federal pension plans would end up owning virtually the entire economy. In sum, rigid application of "normal" business practices to the Federal Government is infeasible, while adoption of only one segment (capital budgeting) where convenient is open to inordinate abuses and has little or no potential benefit.

The conclusion that we draw from the foregoing analysis is that, once the notion "capital investment" is extended much beyond the physical assets, such as buildings, furniture and fixtures, which the government purchases for its own direct use, the accounting logic (and the policy logic) of alternative accounting treatments falls down.

B. Informal Capital Budgeting: Enhanced Capital Planning and Reporting.

1. Capital Reporting Issues.

The analysis articulated above was arrived at as a result of a study conducted by OMB last year in analyzing the issue. To some considerable extent, the force of the argument was such as to blunt the drive to impose a capital budget on the Government. However, several bills have been introduced into the current session of Congress that approach the issue in a different way. While they eschew the idea of a formal capital budget, and the bills differ in detail, they all focus on the perceived inadequate levels of public infrastructure and seek to create planning mechanisms designed to reverse this perceived inadequacy. Among the common elements in this drive to create a new Federal capital planning mechanism (in lieu of a capital budget) is the following:

-- The underlying premise of all these bills is that the public infrastructure is starved for funds; that it is the responsibility of the Federal Government to make up this deficiency; and that this deficiency is sufficiently critical that efforts to alleviate the problem should include institutional changes deliberately designed to expand Federal capital spending, including maintenance. The Grace Commission report endorsed this approach; while it specifically denied that it was endorsing higher Federal capital spending, the justification given by the report for this "reform" was based on the perceived inadequate investment.

-- They all presume that there is or should be a Federal capital infrastructure strategy divorced from annual budgeting. They assume sufficient commonality in capital spending that they believe that it should be conducted independently of operating programs.

In its earlier form, for example, H.R. 1244, Title III, called for an infrastructure study conducted by a 23 member commission composed of six senators (from three pork barrel committees plus Senate Finance); six representatives, (five from pork barrel committees and one from Ways and Means); six appointees of the President from the private sector, each of whom must have expertise in one or more of the following fields: public investment financing, engineering, State or local budgeting, or regional development; plus representatives from each of five designated State/local lobbies (Governors Association; etc.).

Given the potential for abuse inherent in the political configuration outlined above, there is a clear risk of budgetary excess in going too far to appease the demands of Congressional "infrastructure" advocates for greater central planning data. Moreover, it is clear from the sort of technical problems raised by a legitimate attempt to perform any meaningful analysis that these risks are offset by few, if any benefits.

What are public infrastructure needs and how do we measure and assess them?

Proponents of investment needs studies generally assume that needs determine policy. Our basic conclusion is that policy determines "needs."

Proponents of national infrastructure policy suggest that numbers drive policy: better planning and policy would occur if we first had better knowledge -- comprehensive inventories, detailed needs assessments, and comprehensive statements of investment requirements.

The implication of this argument is that, were all the facts known, we'd be able to use objective scientific and engineering standards to compute the "right answer." This notion is, however, a dangerous fallacy. Beyond the limitations of empirical technique in these matters, the parameters used to estimate "needs" are in fact the result of multiple-parameter political agendas which are besed on a host of explicit and implicit value and policy judgments. In short, the facts can never drive the policy; on the contrary, the policy assumptions used, in large part, determine what facts are important or unimportant.

Examples of needs estimates driven by variance in policy assumptions:

- Bridge repair needs range from $20 to $60 billion depending upon whether purely engineering safety standards or functional performance standards are used to make the estimates.

- A $100 million flood control project based on a 3% discount rate must generate $3 million in annual benefits to achieve a ratio of 1:1, but requires $10 million in annual benefits if discount rate is 10%.

- Sewer treatment capacity needs can range from $30 to $35 billion, depending upon whether industrial dischargers are assumed to have access at fully allocated cost or at zero cost.

- Water supply capital needs per capita vary widely based on the pricing mechanism used -- both by type of water used and by region. For example, studies have found that, for low-priority uses such as lawn sprinkling, price changes will produce five times the demand response on the East Coast that they do on the West Coast.

- Current estimates of new fixed rail system needs could range from $5 billion to $25 billion, depending on whether Federal share is 50% or 75%.

- Estimates of Federal highway rehabilitation and repair needs vary by $80 billion depending upon load growth assumptions and functional performance standards used in estimation.

- Needs estimates for any class of public sector infrastructure investment are driven by demand curves, which assume pricing policies and demand elasticities (e.g., user fees, revenue bond amortized financing, local general revenue or national general revenue financing).

The real answer to public sector infrastructure needs: Improved pricing and public finance decision-criteria on a sector by sector basis.

Since there is no public capital investment common denominator (i.e., private economic rate of return), needs estimates are best treated on a sector-by-sector basis after policy assumptions have been clarified and formulated. Since resulting needs estimates and long-term capital investment levels are based on heterogeneous policy goals and objectives, aggregation to a unified Federal capital budget is not worthwhile:

- Public utility sector (e.g., water systems and electric power generation) capital needs will take care of themselves with enlightened pricing policies (closer to economic cost) and regulatory policies (adequate rate of return on capital assets). There is no point in facility needs bean-counting or national investment strategy in this area.

- Health care sector capital "needs" now driven by third-party reimbursement system and lack of economic incentives. The preponderant policy need is comprehensive reimbursement and pricing reform -- not a capital needs inventory and investment strategy.

- Mass transit -- needs estimates will remain inherently elastic, unstable, and "underfunded" until firm investment policy criteria are established. The pre-Surface Transportation Act de facto policy of replacing/modernizing existing bus/rail stock resulted in calculable needs definition and estimates, but resulted in perceived unfairness among newer regions and cities. Post-STA "new start" needs could range from a few billion to $25-50 billion depending upon whether preponderant financing burden is national or local and upon relative weights given to economic costs versus broad intangible values in the decision equation.

- Sewage treatment -- The current de facto policy rule driving needs estimates is Clean Water Act compliance. Any shift to alternate rules would drastically alter

aggregate national investment requirements and regional allocation of needs:

- Waiver of secondary treatment for coastal areas -- $2.0 billion
- National vs. local funding of I/I corrections -- $2.5 billion
- Restoration of growth allowance in capacity estimates -- $11.0 billion
- Systematic replacement/rehabilitation of deteriorating collection systems resulting in an unavoidable mixture of local economic and public health benefits and better national clean water standards compliance would raise needs estimates by $85 billion.

- Inland Navigation and Flood Control -- The demand is inelastic so long as absence of user fee distorts intermodal traffic allocation and strict cost-benefit methodology is waived or relaxed. For example, a recent study found that full O&M cost recovery on the inland navigation facilities on the Illinois River would retard growth in system use to the point where system expansion could be delayed for 15-20 years.

- Airports -- The demand is inherently inelastic so long as it is based on unconstrained traffic growth by general aviation and general aviation is undercharged for its use of the system. The 1980 National Airports Systems Plan identifies $12.7 billion of airport projects at 3,621 eligible airports over the next 10 years. However, 90% of commercial aviation enplanements occur at the top 79 airports.

- Highways -- estimates of "needs" are dependent on whether highway construction standards are decided by those paying the bills. Local communities, carrying the whole cost, tend to permit somewhat greater traffic densities as a trade-off against higher costs, and perform pavement overlays rather than full scale rehabilitation and replacement. As one example, reduced rural highway needs standards would reduce reported highway "needs" by at least 25%.

Even laying aside the issue of question of assessing needs, there are serious problems with producing a Federal inventory assessment designed as a policy instrument. The interest of the infrastructure policy proponents ranges far beyond the existing categories of significant Federal infrastructure investment -- it encompasses almost every durable asset outside the corporate business sector including:

- o public utilities -- water system, electrical power, pipelines;
- o social service facilities -- education, health, child care;
- o public lands and resources -- parks, waste disposal;
- o industrial infrastructure -- water and sewer extensions, industrial parks, ports, railroads; and
- o traditional state/local government functions -- fire, police, prisons.

There is almost no possibility of developing meaningful national inventories, service output measures, needs appraisals or investment criteria for this disparate array of infrastructure assets. Capital needs assessment is dependent upon a host of more generic policy determinations that are inextricably intertwined with engineering based dollar estimates:

- o Private/public ownership -- 40% of water systems are investor-owned, 60% public-owned. Needs assessment are dependent upon whether the existing ownership structure is fixed or variable and whether public sector subsidies are desired for investor-owned facilities.
- o Investment/disinvestment dynamic -- sewer system needs will vary drastically depending upon macro policy bias: the continuum ranges from regional status quo freeze (i.e., rehabilitate all existing investment) needed to serve the existing structure of population, industry, and economic activity to open-throttle development (i.e., subsidize all new development/growth centers).
- o Regional industrial competition -- industrially related infrastructure assets (e.g., ports, sewer capacity and lines, industrial parks) inherently affect the regional location of industrial investment and jobs. National inventories, investment levels and policy priorities are inextricably captive to regional bias on desired long-term growth/change outcome. National aggregates would embody statistical noise and hidden regional agendas.
- o Economics of pricing -- demand for water supply investment and sewerage treatment capacity are heavily influenced by price to users. Any national investment plan that reinforced below-cost pricing would be counter productive.
- o Bricks and mortar fallacy -- Federal fiscal actions affect local infrastructure on both capital supply and product demand side. Medicare/Medicaid are largest capital drivers in health facility system -- but segmentation of facility effects from overall delivery system effects is not useful.

- In sum, programmatically based Federal capital budgets embody a heterogenous, constantly shifting amalgam of political preferences and social policy values that are continuously open to legislative redefinition, contraction, or expansion.

- Consequently, highly aggregated national infrastructure needs inventories and long-term investment plans will amount to little more than a mountain of soft, contentious, largely useless numbers.

Additionally, the creation of a Federal central planning mechanism would move the locus of debate and control in the wrong direction. This Administration is committed to reduction of Federal control over State and local budgeting; the entire push for Federal infrastructure reports/actions is in terms of increasing the Federal role. The areas in which Federal spending constitutes a major component of total public investment (illustrated below) are currently quite limited. Once the Federal Government undertook a general infrastructure role, however, the limits would disappear.

	1982 Federal Funding (in billions)	% of Total Investment*
Federal aid highways.....	$8.2	50%
Mass transit.....	2.6	70%
Waste water treatment.....	2.4	75%
Federal water resources.....	4.0	26%
Air traffic control.....	1.1	100%
Airports.....	0.4	33%

* Federal, State, local.

Policy issues, funding mechanisms, needs assessment methodologies and scope and justification for Federal role are largely unique to each class. Creation of consolidated capital budget by aggregating and pooling major variables among these classes -- existing stock, unmet needs, alternate future investment levels and appropriate allocation of available Federal funding -- would be counter productive and impractical:

- User fee funded vs. general revenue funded programs present wholly different policy problems:

  - National sector user fee programs (interstate/primary highways and air traffic control) involve economic issue of balancing investment level and service output with economic burden of current user tax.

  - Local sector user fee programs (airports, seaports, local highways) involve the political issue of cross-subsidization and national income redistribution.

- o General fund programs (mass transit, waste water treatment, most water projects) involve priorities issue of competition with all other Federal commitments (e.g., defense, education, income maintenance) for limited general revenue dollars.

Federal role definition ranges from "settled" to "evolving" to "fluid" to "contentious" among these Federally supported infrastructure classes. Consequently any aggregation of measures -- existing capital stock, unmet need or new investment levels -- would represent a Pandora's box of arguments!

RANGE OF FEDERAL ROLE CONSENSUS

Infrastructure Class	Federal Role
Highways:	
Interstate construction and 3R.....	settled
Local roads and bridges.....	fluid
Sewerage treatment:	
Secondary sewer treatment plants.....	settled
Sewer interceptors, collectors, inflow/ infiltration systems and growth capacity.....	contentious
Water resources:	
Cost-effective hydro-power.....	settled
Inland navigation new starts and major replacement.....	contentious
Mass transit:	
Existing mass transit bus and fixed rail replacement and rehabilitation...	settled
New fixed rail starts.....	contentious
Airports and airways:	
Large hub airports.....	fluid
Medium, small, and GA airports.....	settled
Air traffic control system.....	settled
Parks and recreation:	
Existing national park replacement and rehabilitation.....	settled
New national parks and non-Federal urban parks.....	contentious

In each of these areas, needs requirements and assessments are dependent on unique subjective standards peculiar to the area of endeavor, along with political/social judgments. Differences in estimated investment needs and desired 1, 5, and 10 year capital budget levels would range from narrow to exceedingly broad depending upon the extent to which underlying policy issues have been resolved:

Type of Investment	Needs Assessment Issues	Range of Capital Needs Difference
Interstate 3-R.....	Technical engineering and design	Narrow
New fixed rail systems.....	Economic feasibility criteria; Federal/local financing share; relative weight of economic vs. intangible benefits (pollution, congestion, esthetics)	Extremely wide
Local bridges.....	Functional performance standards	Wide
Flood control projects.....	Discount rate; cost benefit methodologies	Extremely wide
Airport Construction.....	General aviation traffic growth and pricing policy	Wide
Air traffic control.	Narrow technical analysis of load growth and system coordination	Moderate
Elementary and secondary education facilities.....	Open-and-shut demographic analysis	Narrow
Higher education facilities.....	Complex analysis of inter-disciplinary trends and competitive structure of higher education institutions	Wide

Overall, current checks and balances in the existing agency/subcommittee/annual policy and budgeting system handles these disparate infrastructure classes moderately well. Consolidated national assessment and budgeting for existing Federal infrastructure classes would create a flood of soft numbers, unnecessary conflict and uncertain results.

Even when there is generally a narrow range of differences as to needs assessment -- as, for example, with elementary and secondary education facilities -- this Administration is generally seeking to narrow the Federal role in program operations, whereas the capital budgeting/infrastructure advocates are generally seeking to widen the Federal role. At times such efforts are cloaked with disclaimers, but the substance of their analyses belie the disclaimers.

2. Capital Planning Issues.

There are six major subissues that warrant reiteration in the context of these proposals:

a. Locus of Control. The old adage "he who pays the piper calls the tune" holds. There is no way that expanding the Federal planning role is compatible with decentralization of control.

b. Elasticity of Demand. The demand for various types of investment depends on whether they are deemed to be free goods or are subject to economic pricing incentives. It has proven to be very difficult politically to get the legislative bodies -- including the Congress -- to agree to impose economically rational user fees. There is no real reason to centrally finance most programs for which it makes sense to finance through user charges, whereas central financing makes it likely that much of the financing burden will be shifted from users to the general taxpayer.

c. Intermodal Trade-offs. There are important issues of economic/social trade-offs involved in determining the development of alternative modes of service -- such as in the transportation area. These intermodal issues can be handled much more easily -- both from a technical and a political viewpoint -- in the context of strictly limited Federal planning than as part of an overall infrastructure policy assessment.

d. Resource Allocation Efficiency. In the absence of settled standards for public infrastructure investments, including user charges, creation of national planning would reduce, rather than increase, resource allocation efficiency. It is almost impossible to establish national standards unless they are uniform. Uniform standards of service would ignore inherent variations among communities and regions, thereby forcing economic inefficient spending to pull "deprived" areas up to stipulated standards. There are, for example:

- o Intrinsic rural/urban cost variations for water and fire service;

- o Intrinsic passenger transportation network variations due to population density, intra-metropolitan location of business activity, historic investment in existing infrastructure;

- o Variations in environmental carrying capacity and therefore required sewage treatment performance levels among upstream and coastal areas, rainy regions and dry regions, industrially polluted and pristine areas;

- o Infinite variations in local preference for performance levels among various classes of public infrastructure services (e.g., low-performance mass transit systems).

e. Capital Versus Non-capital Input Trade-offs. The push for Federal infrastructure spending is inherently biased as to appropriate approaches to solve problems. If one is dealing with the problems of health care delivery for veterans, for example, the most cost effective alternative might be to build more VA hospitals. Alternatively, however:

- o It may be more cost effective to utilize non-federal hospital facilities;

- o It may be more cost effective to use out-patient treatment, etc.

f. Federal Displacement/Distortion. Federal involvement in State/local planning and program operations is not policy neutral -- the outcome, in the absence of Federal participation, is different from the outcome in the presence of Federal participation. We need to be concerned about the unintended effects of Federal participation. For example, over the past 15 years, Federal grants-in-aid for physical capital investment increased dramatically relative to (i) the GNP; (ii) the Federal budget, and (iii) State and local budgets. One could assume that this massive increase in Federal aid would have increased total public infrastructure. The results, however, are something different. As shown in the table below, the State and local governments have simply become more and more dependent on Federal largesse, and their own efforts to meet their physical capital needs have dropped significantly. This is particularly ironic since most State and local governments operate using capital budgets, while the Federal Government does not.

CONSTANT DOLLAR STATE/LOCAL CONSTRUCTION
SPENDING BY SOURCE OF FINANCING
(in billions of 1972 dollars)

Year	Total	Own Source	Federal Grants	Federal Grant Share (percent)
1968.....	31.5	24.1	7.4	23%
1969.....	29.6	22.6	7.0	24%
1970.....	28.0	20.1	7.9	28%
1971.....	27.3	19.0	8.3	30%
1972.....	25.8	17.4	8.4	33%
1973.....	25.8	17.6	8.2	32%
1974.....	27.9	19.7	8.2	29%
1975.....	26.6	18.4	8.2	31%
1976.....	23.2	13.4	9.8	42%
1977.....	20.8	9.8	11.0	53%
1978.....	23.4	12.0	11.4	49%
1979.....	22.9	11.6	11.3	49%
1980.....	23.3	12.0	11.3	48%
1981.....	20.4	10.0	10.4	51%

In all, we conclude that attempts to extend expanded capital planning initiatives beyond the borders of direct Federal control of physical assets put in place is at best of dubious value -- and at worst offers the prospect of Federalization, at considerable cost, of matters of economic life best handled by private parties and other levels of government.

Within the borders of the Federal enterprize itself, however, there is little doubt that planning for capital expenditures stands in need of improvement. The clear evidence suggests that:

- Pure expensing of the costs of capital outlays, while sensible given macroeconomic implications, distorts the true costs associated with Federal asset consumption.

- The separation of powers between the Congress and the Executive Branch on spending further distorts spending decisions. Except to the extent that the appropriate name appears on the cornerstone, the Congress has a bias against new Federal fixed investment in favor of current spending for grants and people.

- Given the heavy discount rate most policymakers bring to decisions about spending priorities, the short-run measures of cost and benefits of a project will, nine times out of ten, determine its fate regardless of the longer-run balance.

Setting aside the structural biases, the capital planning task is also given short shrift by policy-makers in the Executive Branch. In part, of course,

this is because Executive Branch policymakers are perforce attuned to the spending biases of the Congress as a constraint on decision-making.

In other aspect, however, a major barrier to more effective Executive Branch capital planning is the paucity of data upon which most analyses are based, and the lack of a comprehensive requirement that capital planning be undertaken by Executive Branch managers as part of the multi-year budgeting process.

The ensuing section discusses improvements that could be considered in Federal capital spending analyses and planning practices. As in any discussion about shifts in accounting practice, the discussion highlights between the value of new information and the cost of collecting it. Yet it provides a framework for beginning a discussion of the decisions that must be made if current Executive Branch practice is to be modified to incorporate improved capital spending planning.

C. Improved Information for Investment in Nondefense Physical Capital.

Whatever the ultimate merits of a unified budget on a cash flow basis, the related accounting conventions need often to be supplemented by a variety of analytical techniques to arrive at good policy decisions. We do not, for example, want to endorse retirement programs because on a short-term cash basis they are cheap. Such plans might have benefit structures that provide very high rates of replacement income and may be expensive on the basis of present value calculations. Such deficiencies are obscured by cash budgeting because the short-run cash impact is minimal. The existing emphasis on cash accounting may similarly be distorting unduly our budget decision process for capital investment. We need to consider how to structure information on capital investment so as to make it useful for decisionmaking, by both operating and central management agencies.

1. Cash Accounting and Physical Investment Planning.

There are a variety of problems with the existing hodgepodge of agency planning and analysis for physical investment.

-- Agencies are likely to torque their budget program to accommodate the appropriations process, not to maximize return on investment. For example, agencies that are provided with annual incremental funding for capital projects are unlikely to engage enthusiastically in long-range investment analysis that yields a reasonable approximation of an economically valid rate of return.

-- Even if agencies are motivated to prepare alternative plans to meet physical investment requirements (including lease versus build options), they would not know where to turn for consistent depreciation rules or discount rates.

-- Agencies also lack guidance on which to base consistent analysis of operating and maintenance costs associated with existing or proposed capital investment. This is a particular problem with Federal investment funds channeled to States and localities

through the Federal grant mechanism, which make up about 70% of Federal domestic capital investment. Typically, operating and maintenance costs are left to States and localities, which may or may not fund them adequately.

All this leads, in many cases, to decisions with unnecessarily high long-term costs. For example, as long as old computers are not depreciated and new ones are not amortized, it will always look on a cash basis as if decisions to replace the old with the new are expensive. Proper capital accounting could help to reveal where true efficiency lies. Similarly, Federal buildings that are leased may be unnecessarily expensive and even goldplated unless conceptually sound calculations are made for direct investment alternatives.

Another common source of excessive costs due to improper planning is the stretchout of investment projects.

-- On the defense side, there is widespread criticism of running assembly plants for major acquisitions (such as aircraft) at suboptimal rates.

-- The Space Shuttle program was stretched out literally to the point where cancellation fees and penalties would have, in some cases, exceeded current production schedule costs.

Realistically, no accounting convention will, by itself, solve these problems. Yet in each case cited above, cash accounting tends to hide the issue, and capital accounting illuminate it. Clearly, under such circumstances, improvement is in order. This improvement must, however, reflect not just the use of better accounting concepts in some abstract sense, but in terms of how decisions are actually made in the public arena. For example, any accounting concept that basically shows the cost of new public works at zero during the construction stages is likely to induce the Congress to increase new starts and speed up progress on wasteful projects. It is essential to record such costs in the budget on a cash basis so that the true economic costs are reflected when the work occurs. This example highlights the dilemma we face: Accounting that may frustrate managers who try to improve program tradeoffs may be the only way to prevent waste and abuse in the political system.

2. Additional Information Needed by Managers.

a. Depreciation. Despite these difficulties, it is important to proceed realistically along the path to better physical investment planning. There is a valid argument to support the view that we need better data to depreciate existing assets. The problem is to develop it both conceptually and empirically.

A first step in developing Federal public sector capital depreciation schedules is to determine the end purpose to be served. If the objective is to provide an overview of the size and composition of Federal investment compared to depreciation,

it is possible to prepare it at a high level of aggregation. If the objective is to change decisionmaking at the program or project level, then much more detailed and disaggregated data are required. If the purpose of Federal capital budgeting is to focus on improving the information base, data systems would differ significantly from those designed to change budget incentives. Specifically:

-- Overall information on the approximate level of net new Federal investment in physical capital can be computed by applying rough depreciation guidelines to the currently available data on outlays for Federal physical capital investment. OMB staff have developed some rough figures along these lines.

-- To provide program managers with information to assist them in making cost-effective lease versus purchase decisions requires that data must be developed at a much more macro level. This would require changing the guidelines currently available in OMB Circulars A-76 and A-104.

-- To provide program managers with better information on investment decisions and permit central agency review and audit of those decisions would require developing new standardized methods of analysis and documentation.

For whatever purpose, a static, simplistic depreciation of historical costs is rarely useful for non-manufacturing investment in either the public or the private sector. The value of the Hoover Dam is affected not only by the inflation-driven replacement cost, but by the fluctuating value of the electricity it produces. In some cases, particularly land, cost data are irrelevant. For example, there are overriding policy reasons why the United States is unlikely to sell the Grand Canyon regardless of what accounting conventions might be applied.

As a result, there is a need to assess whether meaningful depreciation schedules already exist in some instances or could be developed. We know, for example, that the Bureau of Economic Analysis (BEA) in the Commerce Department has developed depreciation calculations for physical investment by the Federal Government. However, in looking into that particular instance, it turns out that BEA uses a depreciation formula that depends in part on a survey of railroad ties and telegraph pole retirement -- published in 1935.

The problem of deriving useful depreciation schedules is paradoxically more difficult for purposes of making public sector decisions than it is for developing private sector balance sheets. Ultimately, the market determines the profits, losses, and assets of a firm. There are a variety of ways in which adjustments can be made through time, such as revaluing assets and writing off losses. A failure to make such adjustments when necessary leads to unpleasant surprises (such as bankruptcy),

which managers prefer to avoid. The public sector, unlike the private, does not consist of hundreds of small firms each reacting to market conditions, and does not usually face the ultimate judgment of the marketplace. Therefore, if analytic mistakes are made in the public sector, there is no corrective action from market forces.

Nevertheless, it is possible to experiment with alternative approaches to depreciation and amortization schedules. Moreover, by examining the alternatives and testing their sensitivity to underlying assumptions, it may be possible to come up with some useful proxies for depreciation and amortization of public investment.

b. Inflation. Since 1960, inflation, as measured by the GNP deflator, has varied from 1% to 10%. There is a widespread consensus that during periods of high inflation, nominal dollar depreciation is misleading because it understates the replacement costs of investment. Moreover, this generalization applies to different degrees to plant and equipment than to structures since the former are more likely to physically wear out as used. In fact, a consideration of constant dollar and current dollar depreciation for Federal nondefense investment so far has raised more questions than it has answered.

-- During periods of high inflation, it is not clear whether depreciation should be re-computed as a one-time level adjustment, as a trend, or as some combination. Moreover, for some assets, the depreciation and the value of the asset both need to be recalculated. For example, the replacement cost of a building may increase, but so does its value.

-- In order to amortize a current investment under consideration, it is necessary to calculate over a 20- to 40-year time span both the inflation rate and the interest rate.

-- For some assets, such as roads and water distribution systems, the line between maintenance and replacement is unclear, and the computed future rate of inflation makes it difficult to calculate the tradeoff between these alternatives even if they are known. On the one hand, in a theoretical era of zero inflation and zero real interest rates, the calculation of the tradeoff between maintenance and replacement is straightforward. As the relationship between these two variables is projected to change, however, the analysis becomes much more complex.

3. Other Depreciation Problems.

a. Nature and lifespan of assets. As the discussion of inflation suggests, depreciation schedules become more difficult to calculate depending on the nature of the asset. For example, in standard practice, buildings depreciate; land does not. Furthermore, a substantial cost in Federal office space is furniture and fixtures, which in theory should be depreciated. In the real world, furniture and fixtures are rarely acquired at the same time. Acquisition dates vary, transfers from one budgetary unit to another are common, and market value or replacement costs are not known.

Defining a useful life is equally difficult. The story, perhaps apocryphal, is that the Old Executive Office Building was not replaced in the 1950's not because no one wanted to, but because it was too costly to tear down. One set of yardsticks that are easily available and therefore tempting would be the Internal Revenue Service depreciation rules. However, most economists believe that their relationship to the useful life of the applicable asset is either wrong or coincidental. Rather, they are simply a form of investment tax credit. Certainly, for public sector decisionmaking, an attempt at calculating a more meaningful useful life would be essential.

b. Value of existing assets. The purpose of capital budget analysis in the public sector is to help make better public investment decisions, not create a profit and loss statement. The treatment of prospective versus prior installations creates a further analytic challenge. As a matter of administrative practicality, public policy, and political reality, most prior installations are not available for sale and, hence, their value must be either imputed (even though it cannot be recouped) or written off (for the same reason). This would suggest that capital analysis be limited to prospective installations. Unfortunately this leads to a build rather than renovate bias. If, on the other hand, capital budget analysis is used to help make choices between replacement versus renovation, we are forced to make a choice between valuing the existing structure at zero (which in most cases will distort the cost) or trying to construct some arbitrary non-market value.

To help articulate more clearly some of the options implicit in these kinds of issues, OMB is constructing an historical data series on nondefense Federal investment using alternative approaches to depreciation. This may provide some insight into useful public sector proxies for real life private sector depreciation schedules.

4. Limitations.

Without regard to the problems of developing explicit agency instructions for capital budget calculations, it may be useful to summarize the limitations of depreciation data.

-- For the past, they appear to be of limited utility, difficult to calculate, or both.

-- Operations for maintenance alternatives to capital investment are hard to calculate, hard to define, and sensitive to inflation variables (which are hard to predict).

-- Data for State and local assets that are federally financed are scattered among hundreds of jurisdictions, with little chance of collecting consistent depreciation estimates centrally. Imposition of additional reporting requirements runs directly counter to the President's announced goals of reducing Federal control over State and local budgets and reporting requirements connected with those controls.

-- There is the dilemma of detail. On the one hand, all fixed assets should, in theory, be depreciated; on the other, to do so would not affect decisions and would be of little interest to managers. Defining the borderline as between, for example, a $4,000 word processing system for the American Battle Monuments Commission and the construction of a new Senate office building is not obvious.

5. The Locus of Analysis.

Yet another factor that needs to be considered is the appropriate level of decision-making about capital needs.

Under current practice, much of government capital planning, particular for real estate, furniture and fixtures, is done by the General Services Administration on behalf of the government as a whole. Through its program of "Standard Level User Charges", GSA attempts to charge off to agency budgets the current consumption cost of the physical assets they consume.

In a highly centralized model, it might be desirable to expand the authority of the GSA to plan fixed investment government-wide, either in isolation or in conjunction with the Executive Office through OMB or some other staff agency. In addition to its current planning responsibilities, the GSA/OMB nexus could also take on planning for (on top of their current involvement in the procurement of) ADP systems and other hardware buys.

On the other hand, it might be desirable to decentralize capital planning, in order to allow program managers to balance capital/non-capital trade-offs in the context of their program needs. This could be done either at the Departmental level, or even

decentralized throughout Departments by bureau so as to tie the level of capital planning more closely to appropriations account structure.

Under such a system, capital planning could be enhanced relative to current practice simply through more enlightened use of SLUC cost stream projections. The presented discounted cost of differing facilities configurations could be analyzed through the different streams of future SLUC costs each would generate. While decisions made on the basis of such analyses would, of necessity, be reviewed at other levels through internal Departmental control mechanisms and the budget process, such a system would allow analysis of tradeoffs between capital and non-capital costs within the context of each distinct agency mission.

Such a system would provide a governmental proxy for the sort of performance analysis now coming into wide use in larger private corporations. Rather than evaluating divisonal performance solely on P&L data, many financial control systems now examine performance of units and managers on the basis of the return they earn on all of the corporate assets placed at their disposal. While the Federal system does not readily admit of such a pure market test, it's clear that better cost attribution would admit of better analysis of the true resource costs associated with ongoing Federal undertakings.

Summing Up

In all, then, the question of better internal capital planning is not solely one of overcoming data deficiencies. Rather, the Working Group concludes that decisions about changes in Federal accounting practice must be premised on firm answers to the following set of questions:

1) The Purpose for Which the Data Will Be Used

-- Are we primarily interested in better macro analysis of the resource costs associated with Federal capital investment? If so, we should favor generalized analyses of highly-aggregated data over highly detailed inventory and control data.

-- Are we primarily interested in inducing better capital/non-capital trade-offs and choices among capital configurations at the middle-management level? If so, we are forced to more detailed systems.

2) The Control Model We Want

-- Are we interested in this problem from a government-wide perspective? If so, we need highly centralized collection, analysis and control mechanisms.

-- Are we interested in better decision-making and planning at the departmental/bureau level? If so, while we may be interested in answering standardized questions, we should not expect

standardized answers, and should opt for a collection, analysis and control system operated and used by individual agencies.

3) The Analytical Output We Expect

-- Are we interested in publishing a comprehensive capital accounting analysis with each annual budget submission? If so, we will want an exhaustively detailed annual inventory/analysis system as part of the budget process.

-- Are we simply interested in ensuring that Federal managers take proper capital cost flows into account in preparing their multi-year plans and budget requests? If so, we may simply want to upgrade the data available under the current SLUC system, and require that managers use the analyses resulting from these data in partial (at least) justification of their budget requests in the annual budget process.

The Options

The need to answer these questions leads the Working Group to conclude that there are really three options for courses of action in fulfillment of the Cabinet Council's objectives:

1) Concentration on Formal Public Analysis

If the Cabinet Council's objective is improved presentational analysis on capital spending, we should concentrate our resources in that direction. Depending on the level of sophistication (and the number of years to first presentation) desired, this can take the form of either:

-- Highly aggregated analyses prepared each year by OMB based on data collected with only modest effort from the agencies; or

-- Full-blown historical depreciation accounting of all physical assets, prepared only after a massive inventory, data standardization and analysis involving unknown man-years of effort, both by GSA and throughout the government.

2) Concentration on Better Decision-Making: Depreciation Analysis

If the Council's objective is to make better information available on a systematic basis to managers, one approach would be to develop, either government-wide or within each agency, a set of historical data and prospective data collection and analytical requirements based on depreciation accounting of physical assets. Depending on the Council's view of how comprehensive such an accounting should be, this approach will be more or less work government-wide.

A depreciation analysis restricted to big-ticket items (involving, say, assets with an acquisition or replacement cost in excess of $1,000,000) might be achievable within the next

year, if restricted to assets used in direct civilian operations, specifically excluding facilities and equipment installed on public lands.

A full-blown proxy for full depreciation asset accounting, involving the millions of assets owned by hundreds of Federal entities would, in our estimate, require a major, expensive government-wide effort over a three or four year period. Should the Council wish to consider this option, we recommend that it engage a private consulting or accounting firm to conduct a feasibility study.

3) Concentration on Better Decision-Making

A second approach to improved asset cost accounting would be to improve the quality, scope and utilization of the present SLUC system of asset user charges. As noted above, analyses based on alternative streams of SLUC cost estimates, if sufficiently encompassing in scope, could provide as much or more relevant information to Federal managers as a post hoc depreciation scheme.

If the Council is interested in pursuing this possibility, the Working Group suggests that a GSA-Chaired Working Group be created to explore the options. Such a Working Group could be charged with answering the following questions:

-- The value, and limitations, of the SLUC charge concept as a data base for investment analysis;

-- The added resource cost to GSA and the agencies involved in implementing various types of systems for either central or decentralized analysis;

-- The degree of government-wide standardization of analytic concepts needed to make such a system viable; and

-- The lead time necessary to put such a system in place.

Inasmuch as this follow-on study regrettably raises more questions than it answers, the Working Group has no recommendation to make as to which of these three approaches best meets the Council's needs. We would recommend, however, that a decision to move forward with full-blown government-wide depreciation accounting not be made until, at least, the potential of the third option to meet the Council's needs has been explored.